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Claims

What Is Claimed Is:

1. Bus station (1 through 6) for communication with other bus stations (1 through 6), characterized in that position information (13) on the bus station (1 through 6) in relation to a sequence of bus stations (1 through 6) is stored in the bus station (1 through 6); the bus station (1 through 6) can send and receive communications with a data packet (11); the communications contain transmission information from which the position information (13) on the transmitting bus station can be determined; on receiving a communication, the bus station determines a time slot belonging to the bus station (1 through 6) on the basis of its own position information (13) and the transmission information; and on receiving a communication, the bus station sends a communication containing the received data packet (11) in the next time slot belonging to that bus station (1 through 6).
2. Bus station according to Claim 1, characterized in that a direction vector (12) is contained in the communication, indicating that the sequence will be run through in a first direction (up vector) or a second direction (down vector) which is opposite the first direction.
3. Bus station according to one of the preceding claims, characterized in that the bus station is designed for receiving communications having a data packet (11) a data source (21), and on receiving a communication from a data source (21), the bus station sends a communication with that data packet to the other bus station (1 through 6).
4. Bus station according to one of the preceding claims, characterized in that in transmitting a communication, the direction vector (12) of the received communication is used; after a communication has been sent, depending on the direction vector, the bus station (1 through 6) checks on whether the data packet (11) sent by the bus station (1 through 6) is repeated in a communication by another bus station (1 through 6); and the bus station (1 through 6) sends the communication again if the data packet (11) sent by that bus station is not repeated by any other bus station (1 through 6).

5. Bus station according to Claim 4, characterized in that with a direction vector (12) in the first direction (up vector), repetition of the data packet (11) is monitored, and with a direction vector (12) in the second direction (down vector) repetition of the data packet is not monitored.

6. Bus station according to Claims 4 through 5, characterized in that the data station sends a communication with a direction vector (12) in the first direction (up direction) when a communication is received from a data source (21).

7. Bus station according to Claims 1 through 3, characterized in that when a communication is received from another bus station (1 through 6) or a data source (21) having a data packet (11), a communication having a direction vector (12) in the second direction (down vector) and the data packet (11) of the received communication is sent.

8. Bus station according to Claims 1 through 3, characterized in that when a communication is received from another bus station (1 through 6) or a data source (21) having a data packet (11), a first communication having the same data packet and a direction vector (12) in the first direction (up vector) is sent, and in a following time slot a second communication having the data packet (11) of the received communication and a direction vector (12) in the second direction (down vector) is sent.

9. Bus station according to one of the preceding claims, characterized in that when a first communication is received and a second communication is received after that but before the bus station (1 through 6) has sent a communication containing the received data packet (11) of the first communication, the bus station (1 through 6) calculates on the basis of the transmission information, the length of the data packet and the direction vector (12) a remaining residual transit time of the first and second communications, and only the communication having the shorter remaining transit time is processed further.

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